G3.9a Taxus baccata woodland

Summary

This habitat includes far-flung *Taxus baccata* woodlands in the Mediterranean and Atlantic regions, where this long-lived tree dominates locally on hot, rocky slopes of lime-rich rocks, often with some *Sorbus aria*, *Ilex aquifolium* and *Buxus sempervirens*, though, in the deep shade beneath, with usually few herbaceous associates. In both regions, particularly in the Mediterranean, there is sometimes a suggestion that the dominance of the tree is an accident of succession where, for some reason, *Taxus* has excluded possible subsequent invaders or remains as a relict senescent phase of some kind of beech forest. Grazing by livestock and wild herbivores can inhibit regeneration, fire can damage the woodland structure and invasive aliens change the species composition. Conservation needs control of these threats.

Synthesis

Overall, there are few data to provide an overall assessment of the condition of this habitat but what little there is points to Least Concern. It includes woodlands in far-flung regions with very different extent in different countries and with differing estimates of change in extent and quality in the recent past. However, with some marginal countries having small extent and in a vulnerable state, there could be a critical loss of AOO. This fragmentation and small total cover make this habitat vulnerable to future threats.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Least Concern	-	Least Concern	-

Sub-habitat types that may require further examination

No sub-habitats have been distinguished for further analysis.

Habitat Type

Code and name

G3.9a Taxus baccata woodland

Taxus baccata woodland, Gennargentu, Italy (Photo: G. Bacchetta).

Taxus baccata woodland with centuries-old tree, Supramonte, Italy (Photo G. Bacchetta)

Habitat description

Taxus baccata is an evergreen tree which figures as a prominent associate in various woodland types on more base-rich substrates, a bird-sown species capable of establishing in rocky terrain or in grasslands, provided those herbivores to which its foliage is palatable are absent, and persisting under the shade, even dense shade, of other trees, notably Fagus sylvatica, sometimes also Abies alba and Picea abies, which can overtop it. Those situations are included elsewhere, as in G1.6a Fagus woodland on non-acid soils. This G3.9a habitat includes two distinct types of woodland united by the dominance of Taxus baccata: one occurs very locally in the Mediterranean, particularly in Corsica and Sardinia, Apennines, Spain and northern and central Portugal; the other occurs in Ireland and the British Isles, where the woodland type strongly favours those locally hot drought-prone south-facing slopes which provide an echo of conditions on limestones in warmer latitudes. In both situations, the stands are typically isolated and there is often a suggestion (particularly in the Mediterranean) that the dominance of the tree is an accident of succession where, for some reason, Taxus has excluded possible subsequent invaders or remains as a relict senescent phase of some kind of beech forest. For the British, the fact that Taxus provided the wood for the longbow, enabling some epic victories over its foes, has entered national mythology, but some stands may really have been encouraged for supplying this important medieval weapon. Widely through Europe, by virtue of its longevity, Taxus and its woodlands have also been endowed with spiritual value and protected. In the woodland included here, Taxus is the sole dominant, though often accompanied in the Mediterranean stands by Ilex aquifolium and Buxus sempervirens (in the UK the latter is questionably native). Sorbus aria is another typical associate in both regions. Juniperus communis, which is among the junipers associated with other kinds of G3.9 Cupressaceae woodlands, is the seral precursor and protective nurse to Taxus where this kind of habitat establishes in basiphilous grasslands in the UK, its skeletal remains then remaining beneath each maturing Taxus. Otherwise there is often no understorey, apart from occasional Sambucus nigra, favouring the latrines of local rabbit colonies. The extremely dense shade cast by the Taxus canopy can exclude all but the most tolerant herbs and bryophytes, among which sparse and puny individuals of Mercurialis perennis and other representatives of

the local basiphilous woodland flora are typical.

Indicators of good quality:

• Dominance of *Taxus baccata* in the canopy

• Typical flora and fauna composition of the region

• Sufficient structural diversity/ complexity (semi)natural age structure or completeness of layers

• Presence of old trees and a variety of dead wood (lying and standing) and the associated flora, fauna and fungi

• Presence of natural disturbance such as windfall openings with natural regeneration

• Low game density to enable *Taxus* regeneration

• Absence of non-native tree species and absence of invasive aliens in all layers (fauna, flora)

Characteristic species:

Taxus baccata, Ilex aquifolium, Sorbus aria, Buxus sempervirens, Mercurialis perennis.

Classification
This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the following typologies.

EUNIS:

G3.9 Coniferous woodland dominated by Cupressaceae or Taxaceae has been split into 3 separate habitats, dependent on the dominant tree and distribution. Of the other two, Mediterranean Cupressaceae woodland has been split off into G3.9b, with Macaronesian Juniperus woodland in G3.9c.

EuroVeg Checklist:

Lathyro veneti-Taxion baccatae Carni et Mucina 2013 Maybe relict stands of Cephalanthero-Fagion and Tilio-Acerion

Annex 1:

91J0 Taxus baccata woods of the British Isles

9580 Mediterranean Taxus baccata woods

Emerald:

G3.9 Coniferous woodland dominated by Cupressaceae or Taxaceae

MAES-2:

Woodland and forest

IUCN:

1.4 Temperate Forest

Other:

EFT 10.11 Mediterranean yew stands

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?
No

Justification

The habitat occurs in two distinct regions, Atlantic and Mediterranean, but its flora is so poor that it cannot be said to be representative of the climate of either region.

Geographic occurrence and trends

EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Croatia	Uncertain	Unknown Km^2	Unknown	Unknown
France	France mainland: Present	0.1 Km^2	Increasing	Stable
Greece	Greece (mainland and other islands): Uncertain	Unknown Km^2	Unknown	Unknown
Ireland	Present	0.8 Km^2	Increasing	Increasing
Italy	Sardinia: Present Sicily: Present	14 Km^2	Stable	Decreasing
Portugal	Portugal mainland: Present	1 Km^2	Stable	Unknown
Spain	Spain mainland: Present	35 Km^2	Decreasing	Decreasing
UK	United Kingdom: Present	20 Km^2	Stable	Stable

EU 28 +	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Bosnia and Herzegovina	Uncertain	Unknown Km^2	Unknown	Unknown
Serbia	Uncertain	Unknown Km^2	Unknown	Unknown

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	4172450 Km^2	204	71 Km^2	
EU 28+	4172450 Km^2	210	71 Km^2	

Distribution map
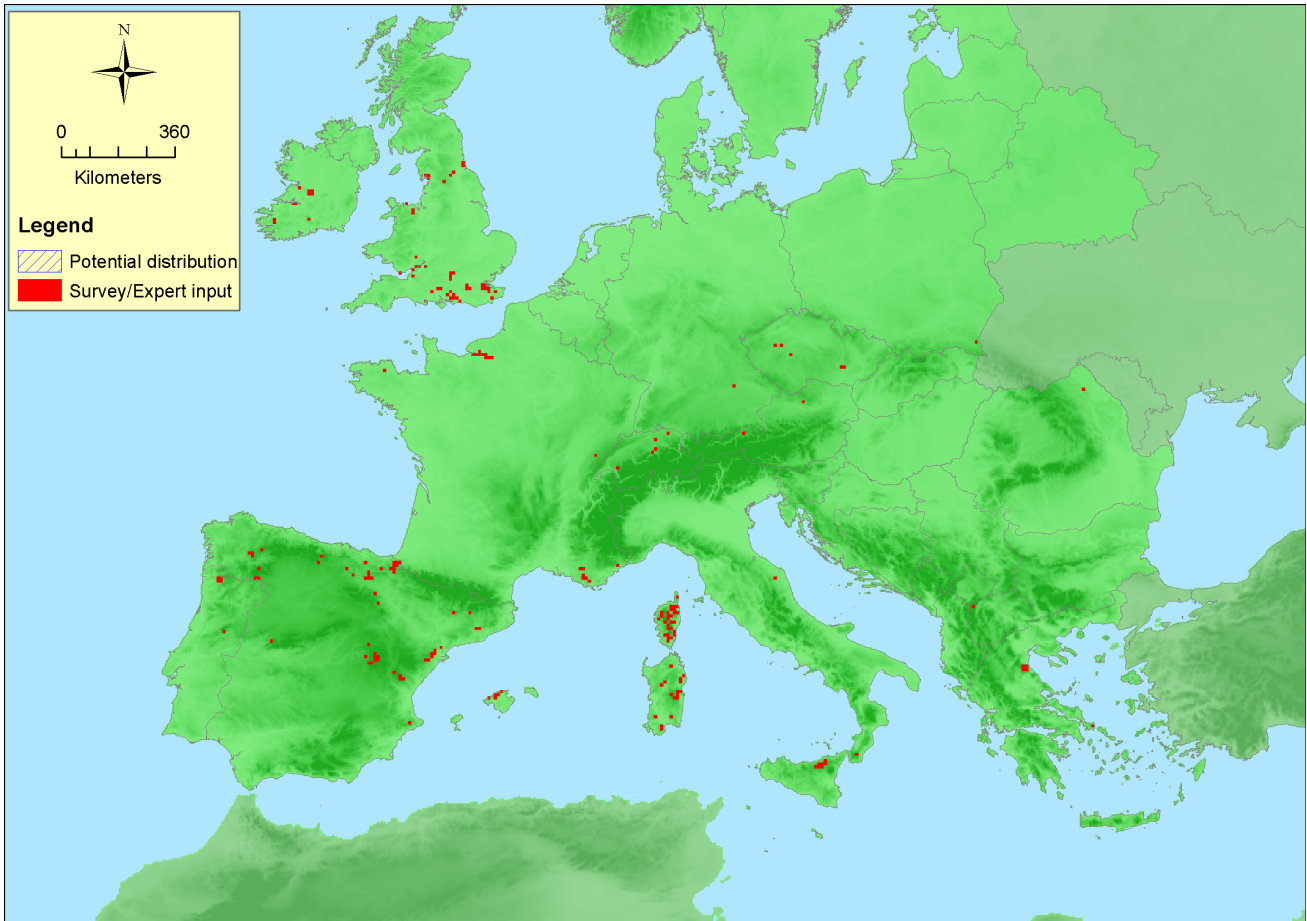
The map is likely to be incomplete outside the EU. Data sources: Art17, EVA.

How much of the current distribution of the habitat type lies within the EU 28?

There is no available data from the EU28+ countries to provide a reliable answer. More widely, *Taxus baccata* is widespread in the Caucasus as well as from Turkey eastwards to northern Iran and in North Africa (Morocco and Algeria), it can be hypothesized that in the EU28/EU28+ the habitat covers about the 30/40 % of its total distribution.

Trends in quantity

In three countries (France, Ireland, Portugal) the area is very small and stable to increasing in the recent past, in the UK and Sardinia/Sicily, where there is more the situation is stable, in Spain where there is most of all countries making a response, there has been a decrease which continues now.   Outside the EU, there are no data to make an assessment.

- Average current trend in quantity (extent)
  EU 28: Decreasing
  EU 28+: Unknown
- Does the habitat type have a small natural range following regression?
  No
  Justification
  The habitat is characterized by a EOO and a AOO greater than respectively 50000km^2 and 50 points. It is unknown whether the loss of marginal sites has lked to a reduction in either criterion.
- Does the habitat have a small natural range by reason of its intrinsically restricted area?
  No
  Justification
  The habitat has a very large overall range but the individual stands are usually small and the country

totals also usually small.

Trends in quality

The overall trend is hard to assess since three out of six countries - Croatia, Greece and Portugal - reported 'unknown', in Spain and Sardinia/Sicily 'decreasing, in the UK 'stable' andf in Ireland 'increasing'. Available data made impossible to estimate the percentage of the current extent subject to degradation.

- Average current trend in quality
  EU 28: Unknown
  EU 28+: Unknown

Pressures and threats

Currently the main threat is the grazing by livestock and wild herbivores, which together with the low regeneration of the yew determined almost everywhere in the range an unbalanced population structure. Occasionally fire can damage the forest structure with the same above mentioned effect. In the future, the ongoing climate change with increasing drought can threat the habitat at its southernmost limit favoring the expansion towards the north. Alien invasive species are also indicated as a potential threat changing the structure and composition of the habitat.

List of pressures and threats

Sylviculture, forestry

Grazing in forests/ woodland

Invasive, other problematic species and genes

Invasive non-native species

Natural System modifications

Fire and fire suppression
Burning down

Climate change

Changes in abiotic conditions
Droughts and less precipitations

Conservation and management

The main conservation requirement is fencing the habitat in order to prevent livestock from grazing so as to protect the regeneration of yew. Fire control and management is also required. A more even population structure can also increase the capacity of the habitat to adapt to new climatic conditions.

List of conservation and management needs

Measures related to forests and wooded habitats

Other forestry-related measures
Restoring/Improving forest habitats
Adapt forest management

Conservation status

Annex I:

91J0: ATL U2

9580: ATL U1, MED U1

When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

The slow growth of *Taxus baccata* makes the habitat unable to rapidly recover after severe damage such as a fire or a clear-cut. Plantation and fencing are required to facilitate the recovery. In the long term competition with other species has to be assessed.

Effort required

10 years	20 years	200+ years
Unknown	Through intervention	Naturally

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	+4.7 %	unknown %	unknown %	unknown %
EU 28+	+4.7 %	unknown %	unknown %	unknown %

Taxus baccata woodland covers a small area (<1sqkm) in three out of six countries in which has been recorded (France, Ireland and Portugal. In the other three (Italy: Sardinia/Sicily, Spain and the UK) its cover varies form 13 to 35 sqkm. The small declines reported for Italy and Spain is compensated by the increase in UK, so no overall decline can be registered over the last 50 years. Data are not enough to estimate historical and future trends.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	50000 Km^2	No	Unknown		Unknown	No	Unknown		
EU 28+	50000 Km^2	No	Unknown		Unknown	No	Unknown		

The EOO is greater than 50000km^{2}and but the AOO is probably greater than 50.

Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %
EU 28+	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %
EU 28+	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	Unknown %	Unknown%	Unknown %	Unknown%	Unknown %	Unknown%
EU 28+	Unknown %	Unknown%	Unknown %	Unknown%	Unknown %	Unknown%

Data provided do not allow the estimation of change in habitat quality.

Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	Unknown
EU 28+	Unknown

There is no quantitative analysis available that estimates the probability of collapse of this habitat type.

Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	LC	DD	DD	DD	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Least Concern	-	Least Concern	-

Confidence in the assessment
Medium (evenly split between quantitative data/literature and uncertain data sources and assured expert knowledge)

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